

CLAIMS

What is claimed is:

1. A method to provide a convenient user interface to change a display setting of a picture area of a display apparatus, which communicates with an external device, the method comprising:

displaying a main window, including a step start button to initiate a sequence of at least first and second display setting adjustment windows in which first and second display setting adjustments are made;

sequentially displaying the display setting adjustment windows corresponding to a selection of the step start button;

adjusting the display setting through the displayed display setting adjustment windows;

issuing a command from the external device in correspondence to adjusting the displayed display setting adjustment windows; and

setting the display setting in correspondence to the command.

2. The method according to claim 1, wherein the main window includes a menu button to separately adjust the display settings.

3. The method according to claim 1, wherein the display setting adjustments are selected from the following:

a picture position adjustment;

a color temperature adjustment;

a resolution adjustment;

clock and phase adjustments;

a contrast adjustment; and

a brightness adjustment.

4. The method according to claim 1, wherein a last display setting adjustment window in the sequence includes a button to open an adjustment save window to save adjusted display settings.

5. The method according to claim 4, further comprising saving the adjusted display settings as a file through the adjustment save window.

6. The method according to claim 5, further comprising:
opening the file;
adjusting a display setting on the basis of the saved adjusted display setting in the opened file.

7. The method according to claim 1, wherein at least one of the display setting adjustment windows comprise an undo button to undo the display setting adjustment.

8. The method according to claim 1, wherein at least one of the display setting adjustment windows comprise a reset button to return the display setting to a default setting.

9. The method according to claim 1, wherein the menu button is plural in number and comprises:

a display button corresponding to a first setting group including a resolution setting, a brightness setting, a contrast setting, and a clock and phase setting;

a geometry button corresponding to a second setting group including a position setting;
and

a color button corresponding to a third setting group including a calibration setting, and a color temperature setting, wherein when each menu button is selected, a window to adjust the display setting belonging to the corresponding setting group is opened.

10. The method according to claim 9, wherein when the display button is selected, a display adjusting window is opened, the display adjusting window comprising:

a resolution button corresponding to the resolution setting;

a brightness button corresponding to the brightness setting;

a contrast button corresponding to the contrast setting; and

a picture setup button corresponding to the clock and phase setting, is opened.

11. The method according to claim 10, wherein when one of the buttons is selected, a adjusting window, in which a display setting adjustment corresponding to the selected button is made, is opened.

12. The method according to claim 11, wherein the adjusting window comprises a pattern activating button to open a pattern window having an image which is changed as the display setting adjustment are made in the adjusting window.

13. The method according to claim 11, wherein the adjusting window comprises:
an undo button to undo the display setting adjustment;
a reset button to return the display setting to a default setting; and
an animation window to show an animation of the display setting adjustment.

14. The method according to claim 9, wherein when the geometry button is selected, a geometry setting window, including a position button, corresponding to the second setting group, is opened.

15. The method according to claim 14, wherein the geometry setting window comprises a pattern activating button to open a pattern window having a picture which is changed as the display setting adjustment are made in the adjusting window.

16. The method according to claim 14, wherein the adjusting window comprises:
an undo button to undo a position adjustment;
a reset button to return a position setting to a default setting; and
an animation window to show an animation of a position adjustment.

17. The method according to claim 9, wherein when the color button is selected a color adjusting window, including a calibration button corresponding to a calibration setting and a color temperature button corresponding to a color temperature of the picture displayed by the display apparatus, is opened.

18. The method according to claim 17, wherein when a user selects the color temperature button, a color temperature adjusting window, in which a color temperature of the picture displayed by the display apparatus is adjusted, is opened.

19. The method according to claim 28, wherein the color temperature adjusting window comprises a pattern activating button, wherein when the pattern activating button is selected, a color temperature pattern window, having a picture with a color temperature that is changed as the color temperature is adjusted in the color temperature adjusting window, is opened.

20. The method according to claim 18, wherein the color temperature adjusting window further comprises:
an undo button to undo a color temperature adjustment;

an optimizing window to display an optimized color temperature setting of the picture area; and

an animation window to show an animation of a color temperature adjustment.

21. The method according to claim 9, wherein the menu further comprises:

an option button to open an option adjusting window having a magic bright button and a preferences button;

a support button to open a support adjusting window having an upgrade button, a technical button, an asset ID button, and a version button.

22. A display apparatus receiving a video signal from a external device and displaying a image corresponding to the video signal, comprising:

a interface to communicate with the external device; and

a microprocessor to display a main window including a step start button to initiate a sequence of at least first and second display setting adjustment windows in which first and second display setting adjustments are made, based on a video signal inputted from the external device, and to adjust a display setting of the display based on a command inputted from the external device through the interface in correspondence to adjusting the displayed display setting adjustment windows.

23. The display apparatus according to claim 22, wherein the display further comprises:

an A/D converter to convert the video signal into a digital signal,

a scalar to fit the digitalized signal to the size of an LCD panel and transmitting the digitalized signal to a panel driving part operating the LCD panel;

a backlight; and

a power supply to supply power according to the microprocessor.

24. The display apparatus according to claim 23, wherein the external device comprises a computer including:

a graphic controller connected to the interface; and

a stored display setting program to provide the main window, to issue the command;

wherein

the display setting program transmits the command and a programming signal to provide the main window to the graphic controller, which converts the programming signal into a

video signal, and the graphic controller transmits the converted video signal and the command to the display apparatus through the interface.

25. The display apparatus according to claim 24, wherein the microprocessor controls the A/D converter, the scalar, and the panel driving part according to the command from the graphic controller.

26. The display apparatus according to claim 25, wherein when a user selects an item with an input unit, the display setting program issues a corresponding command to the graphic controller to adjust a corresponding display setting.

27. The display apparatus according to claim 22, wherein the interface employs a Display Data Channel Common Interface (DDC-CI) including a signal line and signal sequence such that the external device reads data from the display apparatus through the DDC-CI and the command from the display setting program is transmitted to the display through the DDC-CI.

28. The display apparatus according to claim 22, wherein the interface employs a Universal Serial Bus (USB).

29. A machine readable storage controlling a display apparatus to change a display setting of a picture area, which communicates with an external device, according to a method, the method comprising:

- displaying a main window including a step start button to initiate a sequence of at least first and second display setting adjustment windows in which first and second display setting adjustments are made;

- sequentially displaying the display setting adjustment windows corresponding to a selection of the step start button;

- adjusting the display setting through the displayed display setting adjustment windows;

- issuing a command from the external device in correspondence to adjusting the displayed display setting adjustment windows; and

- setting the display setting in correspondence to the command.

30. The machine readable storage according to claim 29, wherein the main window includes a menu button to separately adjust the display settings.